ABSTRACT OF THE DISCLOSURE

A computer-implemented solid modeling system provides a graph-based method for multi-bodied sweep terminations in a computer-implemented solid modeling system. A planar profile of one or more curves is generated, and the profile swept along a specified path to generate a tool body. The swept profile is terminated after the tool body interacts with a plurality of blank bodies to a predefined extent. The termination is comprised of three phases: (1) a pre-processing phase is performed to label faces and edges of the tool and blank bodies; (2) an analysis phase is performed to extract tool and blank graphs for the labeled faces and edges; and (3) a post-processing phase is performed to integrate results from the extracted tool and blank graphs.